

ART. V.—*New Australian Coleoptera, with Notes on some previously described Species, Part III.*

By F. ERASMUS WILSON.

[Read 8th July, 1926.]

PSELAPHIDAE.

SCHISTODACTYLUS GRACILIS, n. sp.

♂ Flavous, in parts infuscated, this noticeably so on second, third, and apex of first dorsal segments of abdomen, and on the whole of undersurface, and less so on the three subapical segments of antennae; very sparsely clothed with a minute depressed pubescence.

Head subquadrate, with large, round, shallow punctures, evenly distributed, except on vertex and portion of base, where they become sparser and less clearly defined; with two small interocular foveae. Antennae with joint 1 cylindric, about equal to 2 and 3 combined, 2-8 gradually decreasing in length, 8 lightly transverse, 9 longer and much wider than 8, 10 strongly transverse, shorter than 9, 11 subovate, almost equal to the three preceding combined. Maxillary palpi with last segment furnished at apex with a spine and a shorter seta, together with a few fine hairs; sub-basal segment with spines of equal length. Prothorax about as long as wide, greatest width about apical third, thence gently rounded to base; puncturation as on head. Elytra strongly transverse, a little longer than prothorax, and with similar puncturation, but not so well defined; sutural striae entire, dorsal disappearing about middle, each arising in minute basal foveae. Abdomen about twice length of elytra, widest at apex of the large segment, at the base of this with a short longitudinal sulcus on each side. Metasternum lightly depressed, punctate. Prosternum with a small conical tubercle on either side, these surmounted with a long sharp seta. Anterior trochanters in middle, and anterior femora near base, armed with a long setigerous spine. Undersurface of abdomen lightly flattened along middle, subapical segment not interrupted in middle, apical segment with a fairly deep round fovea on its apical half.

Length, 1.75 mm.

♀ Similar, but without the abdominal fovea.

Habitat.—South Australia; Myponga (A. H. Elston). Sieved from moss.

This species is most closely allied to *foveiventris* Wilson (1, p. 124). It is however shorter, more slender, and lighter in colour, whilst its puncturation is a little more sparse, and much less

coarse. It differs also in the conformation of the undersurface of its abdomen. In *foveiventris* the subapical segment only appears as a triangle on either side of the fovea, which is very large and cavernous. In *gracilis* the subapical segment is not interrupted in middle, and the fovea is much smaller and confined to the posterior half of the apical segment.

From *armipectus* Wilson (1, p. 123), it differs in its much more slender build (greatest width of *armipectus* 1 mm. and of *gracilis* 0.75 mm.), in its head not being impressed in front, in its more sparse, and much less coarse puncturation, in its shorter and more sparse clothing, and in its abdominal fovea being round and deep.

On the type specimen there are protruding two flattened claspers or forceps, very similar in form to those found in *Psolidura impressa* Boisd. of the Curculionidae.

In *Proc. Roy. Soc. Vic.*, n.s., xxxv. (2), p. 125, I commented upon the fact that each of the four described species of this genus had its habitat in a different State. The addition of this new insect from South Australia fills another gap, and leaves only Queensland without its representative. As, however, that State has up to the present been very imperfectly prospected for Pselaphidae, it is possible that a member of the genus may yet be discovered there.

Type in author's collection. Co-types in Elston's Collection.

NARCODES TERMITOPHILUS, n. sp.

♂ Dark castaneous, but mottled in appearance, due to the bicolouration of clothing; legs and antennae a little lighter; palpi lightly ferrugineous; clothing dense, squamose, mostly cream-coloured, but in places notably prothorax, blackish, this clothing becoming more subsquamose on first two or three joints of antennae, the other joints of which are furnished with somewhat short semidecumbent hairs.

Head lightly transverse, with disc raised, and precipitous sides, these from region of eyes to base becoming widely explanate, maximum width across base of eyes, where there is a rounded projection on the lateral border, sides behind projection gently arcuate to base, in front much constricted, and gently decreasing in width to apex; with a wide depression between antennal tubercles and two large shallow interocular foveae; with dense and somewhat coarse puncturation much concealed by clothing. Antennae thin, passing intermediate coxae, basal joint moderately stout, subcylindric, 2 oval, much shorter, 3-7 elongate, 3 nearly twice as long as 2, and a little longer than 4; 4, 5 and 7 subequal, 6 a little shorter, 8 about one half as long as 7, 9 equal in length to 8 but wider, 10 about as long as wide, 11 subovate, as long as the two preceding; the last three segments forming a somewhat inconspicuous club; palpi with joint 4 inserted near summit of swollen portion of joint 3. Prothorax, including lateral projec-

tions, about as wide as long, sides furnished at about apical fourth with a tubercular projection or tooth; from middle to base gently arcuate; with a shallow medio-basal impression, and puncturation as on head. Elytra short, about one-third wider than long, sides evenly rounded, apical margin of each elytron lightly produced near outer angle; dorsal striae widened basally and traceable to about apical fourth; with two somewhat prominent eminences near humeral angles; surface densely and rather coarsely nodular. Abdomen much wider than elytra, first and second segments widened posteriorly, third parallel sided, others decreasing in width, beyond second strongly declivous, surface much as on prothorax. Undersurface densely punctate. Metasternum raised and widely and somewhat deeply excavated. Abdominal segments only slightly flattened. Legs moderately long. Anterior trochanters armed in front with a somewhat flattened protuberance, this at its summit, bluntly dentate exteriorly. Anterior femora each with a minute tubercle near base. All tibiae curved apically.

Length, 4 mm.

♀ Differs in being much larger (4.5 mm.), and in having the undersurface of abdomen a little more convex.

Habitat.—Western Australia; Mundaring (J. Clark). Four males and one female taken in a colony of *Microcerotermes newmani* Hill MS.

This species is the largest of the known *Narcodes*, the only one approaching it in size being *crassus* Oke (2), the measurements given for which are 3.25—3.35 mm. It may, however, be readily differentiated from that species, among other things by its metasternum not being furnished with a lamelliform protuberance and in the undersurface of its abdomen not being excavate.

For the determination of the Termite host of this species I am indebted to my friend Mr. Gerald F. Hill, Entomologist of the National Museum, Melbourne.

Type in Author's collection.

NARCODES GRAMENICOLA, n. sp.

♂ Dark castaneous, prothorax, abdomen in parts, and antennal club, infuscated; palpi flavous; upper surface with clothing moderately dense, squamose, mostly whitish, but in parts fuscous; undersurface with a fairly long whitish adpressed subsquamose vestiture, this noticeably longer at apex of each abdominal segment.

Head including eyes, lightly transverse, raised on disc, with two shallow interocular foveae, and a large median impression in front, extending to front margin; hind angles produced; basal margin arcuate inwardly; with a coarse shallow round puncturation; antennae passing a little intermediate coxae, joint 1 cylindric, viewed from above not much longer than 2, but broader, 3 narrower and longer than 2, 4-7 subcylindric, shorter than 3, 8

much shorter than 7, about as long as broad, 10 strongly transverse, 11 widely and bluntly ovate longer than the two preceding combined. Prothorax transverse, anterior angles produced, posterior wanting, base rounded, sides each with a projection at about apical third, in front and behind these projections lightly arcuate; disc raised; with a shallow medio-basal fovea much obscured by clothing, and an impression on each side; with puncturation as on head. Elytra short, strongly transverse, sides gently rounded, with sutural and discal striae, the latter terminating at about apical third, surface much raised between dorsal and sutural striae, and with a prominent eminence near humeral angles; with puncturation much less clearly defined than on prothorax. Abdomen nearly twice as long as elytra; puncturation as on elytra; its ventral surface strongly flattened, and with a wide shallow excavation on ultimate segment. Metasternum widely and deeply excavate, with a prominent lamelliform protuberance immediately behind each intermediate coxa, these protuberances lightly deflected backwards and slightly overhanging the excavation. Anterior trochanters with a flattened projection in front, this bidentate. Legs with femora strongly inflated, but constricted before apex, the anterior ones each with a minute tubercle near base. Tibiae curved, bluntly spurred apically.

Length, 3 mm. (*vix*).

♀ Similar, but with undersurface of abdomen not flattened, metasternum much less strongly impressed, and with no protuberances behind intermediate coxae.

Habitat.—South Australia; Mount Remarkable (F. E. Wilson and A. M. Lea). Sieved from grass tussocks.

The prominent lamelliform projections behind the middle coxae serve to easily distinguish this species from all other described species of the genus. *Crassus* Okc has its metasternum with a lamelliform projection, but in this case it is located between the posterior coxae.

Type in Author's collection.

SCHAUFUSSIA MONA, n. sp.

♂ Dark reddish castaneous, nitid; elytra except at extreme base and tips, and appendages, a little paler; clothed with rather short semidecumbent yellowish pubescence.

Head moderately long, broad, coarsely and frequently punctate, basal angles widely rounded, rather strongly constricted before eyes, vertex in front suddenly declivous, in centre of declivity with a bunch of golden hairs reaching across to antennal tubercle; with three shallow but sharply defined interocular foveae placed just at edge of declivity, the centre one very large, transverse, broadly rounded, the outer ones small, rounded, and each emitting from its centre a long and strong seta, these directed a little forward; antennal tubercle moderately wide at base, strongly elevated and directed a little backwards, its sides notched

about middle, and its apex broadly rounded and almost reaching the level of vertex. Antennae moderately stout, reaching intermediate coxae, joint 1 cylindric, not quite equal to 2 and 3 combined, 2 cylindric, 3 lightly obconic, 4, 5, 6 cylindric, 2-5 subequal in length, 6 a little shorter, 7 quadrate, 8 a little shorter and a little broader than 7, 9, and 10 trapezoidal, longer than 8 and increasing in width, 11 irregularly ovate, truncated at base, bluntly pointed, a little longer than the two preceding combined. Palpi with second joint pedunculate on basal half and strongly swollen on apical half, its swollen portion dilated internally, third joint shorter, not so stout, fourth as long as third but a little narrower, thin at base, lightly dilated internally, and minutely truncated at apex. Prothorax about as long as broad, broader than head, convex, no medio-basal fovea, sides widely rounded, puncturation coarse and frequent. Elytra lightly transverse, sides evenly rounded, gently narrowed to base; dorsal striae feeble, barely attaining middle of elytra; puncturation similar to that on prothorax but not so conspicuous. Abdomen a little narrower than elytra, strongly depressed beyond first dorsal segment, which is longer than the rest, and which exhibits two feeble basal carinules enclosing a little more than a half part of the base, these difficult to see owing to a fringing effect of the pubescence on the elytral tips; puncturation much as on elytra. Metasternum widely and shallowly excavate, and ventral segments of abdomen slightly flattened along middle. Feet elongate. Anterior and intermediate femora a little more robust than posterior, the anterior armed with a small blunt tooth towards their bases. Four front tibiae rather strongly curved, hind almost straight. Anterior trochanters strongly produced over almost their entire width into a subparallel sided, square ended, plate; intermediate trochanters angularly produced.

Length, 2 mm. (*vir*).

♀ Unknown.

Habitat.—Victoria; Warrandyte (F. E. Wilson). Two examples sieved from moss.

Of the two species assigned to the genus *Schaufussia*, viz., *formosa* King (3), and *nasuta* Raff. (4), this insect comes nearest to the latter. From the former it differs in its strongly elevated antennal tubercle, different arrangement of interocular foveae, its very much more uniform, and more sharply defined puncturation, its more dense clothing, its much shorter and less well defined dorsal striae, etc. From the latter among other things, its elevated antennal tubercle, interocular foveae, and differently armed front trochanters, clearly define it.

Type in Author's collection.

PSSELAPHUS STRIGOSUS, n. sp.

♂ Head and prothorax very dark castaneous, the rest much paler; very sparsely clothed with pale moderately long pubes-

scence, this on elytra most noticeable at sides, and arranged in lines; elytral tips not fringed.

Head lightly elongate, not much narrower before than behind eyes; median groove not sharply defined, wide and shallow, widely open in front, and somewhat indistinctly carried back to neck; bigibbous and bifoveate between eyes, the foveae small, round, and placed beneath the gibbosities; the whole coarsely longitudinally strigose. Antennae passing a little middle coxae, club moderate. Palpi with fourth joint strongly arcuate, its club a little more than one-third total length of joint. Prothorax about as wide as long, sides lightly arcuate before base and apex; transverse furrow wide, not interrupted in middle and laterally not terminating in a small round fovea; the whole coarsely longitudinally strigose as on head, except behind furrow, where the strigosity is much finer and more or less transverse. Elytra transverse, sides evenly rounded; apex almost straight; suture not raised, with four striae on each elytron, one sutural, two parallel dorsal, and one diverging extra-dorsal; all except sutural terminating at apical declivity. Abdomen with first segment long, longer than the rest combined, and wider than elytra. Prosternum and metasternum more or less strigose. Second ventral segment of abdomen with a shallow longitudinal impression from base to near apex, and metasternum indistinctly impressed on disc. Legs with femora moderately stout, and hind tibiae rather strongly curved near apex.

Length, 2 mm. (*vir*).

♀ Differs in having undersurface of abdomen convex.

Habitat.—South Australia; Myponga (A. H. Elston). Sieved from moss.

This very fine species is one of the prizes obtained by my friend Mr. Elston, who, like myself, had devoted much time to the examination of mosses and tussocks. In all he secured ten examples—three males and seven females.

Its strigose head and prothorax render it one of the most distinct of the genus, as up to the present no other Australian species has been described having similar sculpture. The hairs, particularly on the elytra and abdomen, are strongly curved just before their apices.

Type in Author's collection. Co-types in collection of A. H. Elston.

PSELAPHUS NIVEICOLA, n. sp.

♂ Nitid, castaneous, palpi paler; sparsely clothed with moderately long, suberect, black, curved hairs; these arranged in lines on the elytra. Disc of metasternum, and base of abdomen ventrally, with short pale fasciculate clothing.

Head elongate, rather strongly attenuate before eyes; median longitudinal groove terminating between eyes, shallow, its sides in front suddenly converging and almost meeting; with two large rounded interocular foveae, these placed close to the hind margin

of each eye; vertex convex; palpi with fourth joint of moderate length, strongly bent, its club somewhat exceeding one-third of its total length. Prothorax as long as broad, equal in length to head, maximum width at middle; transverse furrow except in centre, shallow, strongly interrupted in middle by a carinate sided longitudinal fovea, and terminating at each side in a roundish fovea; these rounded lateral foveae however are each connected with an irregular shallow longitudinal depression reaching back to the base of prothorax. Elytra lightly transverse, rather strongly narrowed to base, humeral angles acute, apical declivity naked and minutely striolate; the whole of base occupied by four deep longitudinal fossae, these becoming more and more shallow as they recede towards apex; inner fossa on each elytron bounded by the raised suture and a sharp-edged flattish-topped carina, occupying position of dorsal stria, outer bounded by this carina and another sharper one, near the lateral margin; outer edge of dorsal carina traceable to just beyond apical declivity, bent. Abdomen very much depressed beyond first segment, this very long, exceeding the rest combined. Metasternum much raised, shallowly excavated on disc, excavation narrowed to base. Second ventral segment of abdomen with a large, oval, longitudinal excavation extending from base to apex. Legs with femora robust, their surface at base beneath, scaly. Tibiae lightly arcuate, swollen on apical halves, each with an indistinct longitudinal channel, and carinate outer edge.

Length, 2.5 mm.

♀ Unknown.

Habitat.—Victoria; Mount Feathertop, altitude 6200 feet. Sieved from tussocks of snow grass kindly collected for me at the summit, by my friend, Mr. Chas. Barrett.

In Raffray's table, *Proc. Linn. Soc. N.S.W.*, xxv. (2), p. 194, this species would be associated with *pilosus* Raff. (5, p. 201), and *longepilosus* Schaufuss (6). From the former it differs amongst other things in its non-tuberculate head, and from the latter, its carinated elytra serve to distinguish it. From *villosus* Lea (7, p. 750), it may be separated by reason of its more sparse clothing, its greater size, and by its median cephalic groove being almost closed in front. From *bryophilus* Lea (7, p. 751), the latter two characters also serve to differentiate it. *Foveiventris* Lea (7, p. 748) is certainly allied to it, but in that insect the clothing is very different.

Type unique, in Author's collection.

PSELAPHUS METASTERNAIS, n. sp.

♂ Reddish castaneous, palpi slightly paler; somewhat sparsely clothed with moderately long, pale pubescence, this where present on elytra arranged in lines; elytral tips not fringed. Undersurface with a narrow strip of pearly, subsquamose clothing on each side of mesosternum in front, and on base of abdomen; sides of metas-

ternal and abdominal excavations fringed with pubescence, elsewhere more or less sparse.

Head elongate, median channel deep, moderately wide, and terminating between the eyes, where it becomes widened; with two small round interocular foveae. Antennae reaching about middle coxae, all joints elongate, ninth narrowly ovate, tenth wider but a little shorter, and eleventh equal to the two preceding, ovate acuminate. Palpi thin, about equal in length to antennae, fourth joint arcuate, its club a little more than one-third of its total length. Prothorax about as broad as long, greatest width in advance of middle, sides rounded; transverse furrow terminating in a small round fovea at each side, and lightly interrupted in middle by a minute carinate-sided fovea; surface behind furrow smooth. Elytra slightly broader than long, each elytron with a sutural and dorsal stria, these foveate basally. Abdomen wider than elytra. Metasternum with disc widely and deeply impressed from base to apex, this impression narrowed to middle coxae, and having its greatest width about middle, becoming increasingly deepened as it approaches hind coxae. Undersurface of abdomen with first, second, and ultimate segments, longitudinally impressed, impression on second segment widely oval, that on ultimate segment shallow and not very distinct.

Length, 2.3 mm.

♀ Similar but with metasternum convex, though somewhat depressed posteriorly, and with undersurface of abdomen convex.

Habitat.—Victoria; Mount Donna Buang, 4080 feet (F. E. Wilson). From tussocks of snow grass.

This species seems to fall nearest to *crassus* Raff. (5, p. 200). The author of that species does not state the sex of his type, though from the description, it seems probable that it is a female. *Metasternalis*, however, differs from the description of that species in having its head not bigibbose between the eyes, and in the proportional sizes of its antennal joints. From *elongatus* Raff. (5, p. 200), it may be distinguished by its larger size, in having its palpi not nearly straight, and in having the extreme base of its prothorax not minutely reticulated.

Mr. A. M. Lea states in *Proc. Roy. Soc. Vic.*, xxiii., p. 154, that in the male of *tuberculifrons* Raff., the metasternum is impressed, and that the impression is carried over on to the large segment of the abdomen, but the prominent interocular tubercles of that species, apart from anything else, preclude possibility of confusion with *metasternalis*. The metasternal impression of the latter species is indeed pronounced, and no described Australian species approaches it in this respect.

Type in Author's collection.

PSELAPHUS ELSTONI, n. sp.

♀ Reddish castaneous, palpi noticeably paler; uniformly clothed with moderately long pale pubescence; elytral tips fringed

with blackish setae; with an oval patch on each side of mesosternum in front, and a narrow band on extreme base of abdomen dorsally and ventrally, of pale squamose clothing.

Head short and broad, slightly longer than wide; eyes very prominent and placed a little behind middle; median channel somewhat narrow and deep, widened between eyes, and continued back to neck; with two small round interocular foveae placed a little further from eyes than usual. Antennae moderately long, thin, joint 1 stout, wider than 2, which in turn is wider than 3, but of about equal length, 4-8 subequal, 10 a little longer and wider than 9, 11 about one and one-half longer than 10. Palpi not quite so long as antennae, fourth joint lightly arcuate, its club occupying a little more than half its total length. Prothorax of equal length and breadth, greatest width a little in advance of middle, sides lightly arcuate to base and apex; transverse furrow well defined, terminating at each side in a small round fovea, and interrupted in middle by an oval longitudinal sulcus, this carinate at sides, where it intersects the transverse furrow; surface behind transverse furrow smooth. Elytra lightly transverse, sides gently rounded, almost straight across apex, suture very little raised, each elytron with dorsal and sutural striae. Abdomen very little wider than elytra. Metasternum and ventral surface of abdomen strongly convex.

Length, 1.75 mm.

Habitat.—South Australia; Mount Lofty Ranges (A. H. Elston). Two examples taken in ants' nests. Hosts, *Iridomyrmex nitidus* and *Chalcopectus metallicum*.

This species is most closely allied to *mundus* Sharp (8), but differs from the description of that species in the following details. The channel on disc of head is not indistinct, the clothing is certainly not sparse, and the transverse furrow on prothorax is not entire. Otherwise it has much in common with that beetle.

Type in Author's collection.

PSSELAPHUS OTWAYENSIS, n. sp.

♀ Reddish castaneous, tarsi and palpi a little paler; clothing consisting of fairly long, pale semi-decumbent pubescence, this sparse, and mostly confined to abdomen and sides of head, and a very short, dense subsquamose pubescence on dorsal and ventral surfaces of abdomen at base, on mesosternum at apex, and on apical declivity of elytra, except at outer edges.

Head rather broad and of moderate length; median channel a little narrowed in front but continuing back to neck, although considerably widened and somewhat interrupted between eyes; with prominent interocular tubercles, these somewhat hollowed out on their internal sides. Eyes prominent, placed centrally. Surface on either side of median excavation between tubercles, and base of head irregularly and shallowly, transversely sulcate. Antennae moderately long, joint 1 viewed from above equal to 2

and 3 combined, 3-8 subequal, a little narrower than 2, 9 and 10 longer and increasingly wider, their combined length equal to 11, which is subovate. Palpi of moderate length, fourth joint strongly curved, its club about equal to one-third of its total length, and furnished with an indistinct longitudinal sulcus. Prothorax very little wider than head including eyes, about as long as wide, maximum breadth in front of middle; transverse sulcus very wide, strongly arcuate and in places deep, lightly interrupted in middle by two minute carinae, and terminating at each side in a small round fovea, these latter situated in a wide sulcus running back to base of prothorax; surface behind transverse sulcus finely reticulate. Elytra wider than long, sides gently rounded from base to apex, sutural and dorsal striae moderately distinct, the latter on about basal third being represented by a broad, lightly raised, flat topped ridge, formed by the backward prolongation of the basal fovea, of which there are two on each elytron. Abdomen length of elytra, strongly depressed beyond first segment. Metasternum strongly convex. Ventral surface of abdomen convex and its second segment longer than the sum of the succeeding ones.

Length, 2.5 mm.

Habitat.—Victoria; Lorne, in moss (F. E. Wilson).

This *Pselaphus* apparently approaches nearest to *tuberculiventris* Lea (7, p. 749), and *longifrons* Raff. (9). From the description of the former it may be distinguished by reason of its very evident interocular tubercles, in having its cephalic surface on either side of median excavation sulcate, in its lack of dense white pubescence on apex of prosternum and middle of neck, in its abdomen not being longer than elytra, and in its elytra possessing four basal foveae. From the description of *longifrons* to which it appears most closely allied, it may be differentiated by the different shape of the apical joint of its antenna, in the possession of lateral longitudinal foveae on its prothorax, in its elytra, being not longer than broad, and in having four and not two basal foveae.

Type unique, in Author's collection.

PSELAPHUS BIARMATUS, n. sp.

♂ Castaneous, feet and palpi paler, with pale, moderately long subdepressed pubescence, this on elytra rather sparse and arranged in lines, on abdomen more frequent and evenly distributed, on prothorax sparse, and mostly confined to the sides; clothing of undersurface shorter, and most conspicuous on sides and apex of metasternal excavation, on sides of the excavation on second segment of abdomen, and where it forms a broad longitudinal line on ultimate segment; base of abdomen ventrally, narrowly clothed with a moderately thick, short sub-squamose vestiture.

Head with median groove wide, dilated towards its termination between eyes; vertex convex and almost same width as apical extremity; eyes placed slightly behind middle; with two somewhat obsolete interocular elevations or tubercles; undersurface, on either side in region of eyes, armed with two strong outwardly deflected spines. Palpi rather long, fourth joint with club occupying about one-third of its total length, first joint armed at apex with a long bluntly pointed spine. Antennae with first joint much wider than second, and about equal in length to second and third combined, second lightly wider than third, all joints longer than wide, apical joint subovate, acuminate. Prothorax lightly longer than wide, widest slightly in advance of middle, with transversal impression well defined and strongly arcuate, this obsoletely interrupted in middle by two minute carinules, and terminating at the sides in a small roundish fovea. Elytra almost as long as wide, apical declivity naked and minutely striolate, dorsal striae strongly bent and terminating at beginning of apical declivity, bordering either side of the dorsal striae particularly on basal half, the elytral surface is somewhat raised thus forming two longitudinal ridges; also on apical half of elytra, midway between dorsal striae and lateral margins there are faint indications of still another stria on each elytron. Metasternum widely and deeply excavate. Abdomen with second ventral segment longitudinally excavate, apical segment with its surface minutely striolate and with an inconspicuous impression near its termination.

Length, 2 mm.

♀ Unknown.

Habitat.—Victoria; Belgrave, in moss (F. E. Wilson). Fern-tree Gully (C. Barrett).

The armature of the undersurface of the head, and of the palpi, render this species by far the most distinct of any *Pselaphus* so far described from Australia.

Some entomologists might consider that this insect by reason of the armature of its palpi, should have a genus to itself, but apart from this matter of armature it is a typical *Pselaphus*, and I do not consider that any good purpose would be served by isolating it.

Type in Author's collection.

PSELAPHUS GEMINATUS Westw.

(Trans. Ent. Soc. Lond., 1856, p. 273, t.16, f.9.)

Habitat.—South Australia; Myponga, in nest of a small ant, *Iridomyrmex* sp. (A. H. Elston).

TYROMORPHUS VICTORIENSIS, n. sp.

♂ Dark reddish brown, but prothorax and joints 7-10 of antennae tinged with black, palpi and eleventh joints of antennae

flavous; with moderately long palc semidecumbent pubescence.

Head, including eyes, about as wide as long, sides behind eyes evenly rounded to base, in front of eyes rather strongly narrowed to apex; somewhat widely-impressed between antennal ridges, and with two small but rather deep interocular foveae; with large round shallow punctures densely and evenly distributed. Antennae reaching about middle coxae. Joint 1, long, cylindric, about equal to 2 and 3 combined, 2 about equal in length to 3 but thicker, 3 to 8 slightly decreasing in length, 9 about twice as long and nearly twice as wide as 8, 10 transverse, 11 subovate, longer than the two preceding combined. Palpi long, second joint much swollen on its apical half, third about one-half length of second, fourth about twice as long as broad, somewhat excavated at base for the reception of third when folded back upon it, and bearing a longitudinal groove bordered by a carinate ridge, this latter only visible from some directions when palpi are extended, apical truncature of segment bearing a seta. Prothorax approximately as long as wide, widest about apical third, wider at base than apex, sides evenly rounded from apex to position of greatest width, thence almost straight to base; with a small round medio-basal fovea, and puncturation as on head. Elytra transverse, fairly convex, shoulders prominent, sutural striae entire, dorsal wide, and deep basally, and traceable to beyond middle; puncturation much less distinct than on prothorax. Abdomen with first and second dorsal segments subequal in width, the latter much shorter than the former, strongly depressed beyond second segment; first segment with a rather inconspicuous longitudinal impression on either side towards lateral border; ventral surface with a wide shallow impression commencing at base of second segment, and continuing to the apex of abdomen, apical segment strongly produced in middle. Metasternum widely and deeply excavate and with a well defined median longitudinal sulcus. Legs moderately long. Intermediate trochanters at base produced into a strong subtriangular tooth, posterior with a rounded projection or tooth in like location. Femora moderately stout, rather strongly constricted near apex. All tibiae curved from just beyond middle, this much more apparent on hind tibiae.

Length, 3 mm.

♀ Similar, but no armature on trochanters, ventral surface of abdomen convex and not strongly produced apically, and tibiae much less strongly curved.

Habitat.—Victoria; Beaconsfield (F. E. Wilson). Bacchus Marsh (C. Oke). Ferntree Gully (F. E. Wilson and Ejnar Fischer).

This species is fairly abundant and may usually be found beneath logs or stones in damp situations. It bears rather a strong superficial resemblance to *mastersi* Macl. (10), but may be easily distinguished from that species by the possession of armed trochanters. From *flavimanus* Lea (11), it differs by being larger, in its possession of armed trochanters, in its pubescence being not short and in its coarser puncturation.

In Raffray's table of species, *Proc. Linn. Soc. N.S.W.*, xxv. (2), p. 227, it would be associated with those species falling under the heading "Entirely punctate." A female from Bacchus Marsh collected by Mr. Oke apparently is referable to this species, but differs in having its antennae unicolorous and in its prothorax not being tinged with black.

Type in Author's collection.

TYROMORPHUS TIBIALIS, n. sp.

♂ Dark reddish castaneous; head, abdomen and four apical joints of each antenna black or blackish, rest of antennae, palpi and legs light reddish-brown; the whole nitid; very sparsely clothed with short, pale, semidecumbent pubescence.

Head lightly broader than long, truncate in front, before eyes, lightly narrowed, behind, widely rounded to base; with two small interocular foveae, and a few scattered punctures. Palpi with second joint subtriangularly produced within, apical segment furnished with a moderately strong seta at summit. Antennae rather long, joint 1 as long as 2 and 3 combined, 2 subcylindric, 3-6 subequal and a little shorter than 2, 7 slightly wider than 6, 8 obconic, shorter than 7, 9 obconic, about one and one half times wider and longer than 8, 10 transverse lightly wider and shorter than 9, 11 subovate, equal in length to the sum of the three preceding joints. Prothorax about as wide as long, sides evenly rounded to their widest part situated about apical third, thence lightly arcuate to base; with a basal fovea, and puncturation much as on head. Elytra transverse, shoulders raised, sutural striae entire, dorsal traceable to about apical fourth, both sutural and dorsal striae widely and deeply impressed at their bases; with puncturation as on prothorax. Abdomen longer than elytra, very convex and depressed towards apex, first segment with a very short carina on either side. Undersurface of abdomen lightly impressed on disc. Metasternum widely and deeply impressed. Front trochanters in middle and front femora at base, armed with a short acute spine, each spine surmounted with a little bundle of setae; middle trochanters armed with a flattened protuberance, this rounded at apex. Femora moderately robust. Tibiae strongly sinuate on apical halves, the intermediate thickened to about middle, where they are furnished with a short tooth, their apical extremities also bluntly produced internally.

Length, 2 mm.

Habitat.—Victoria; Warburton, in flood debris (F. E. Wilson).

Raffray divided the Australian species of the genus *Tyromorphus* into two sections—(1) Entirely punctate, (2) Entirely smooth. This species belongs to the second section, and it appears to be somewhat closely related to *laevis* Raff. (5, p. 232), the male of which Mr. A. M. Lea tells us in *Proc. Linn. Soc. N.S.W.*, 1911, p. 452, has the intermediate tibiae dentate in the middle. It may,

however, be differentiated from that species by reason of its armed intermediate trochanters, carinated first dorsal segment of abdomen, and by its smaller size.

Type in Author's collection.

HAMOTOPSIS METASTERNALEIS Lea.

(Proc. Linn. Soc. N.S.W., xxxvi. (3), p. 454.)

Mr. Lea in his notes at the end of the description of this species states that on the type there is, on the apparent first dorsal segment of abdomen, a very narrow longitudinal carina, but as it is slightly oblique and not exactly median it may possibly not be typical. Before me are three specimens of this species collected by myself at Mount Lofty, South Australia, from nests of the ant *Amblyopone australis* Er. I find that in all of them the carina mentioned by Mr. Lea is present, but is median, and is continued to the apex of the apparent second segment. A specimen in the collection of Mr. A. H. Elston, also from the same locality and same host, has the carina placed centrally, but in this case it traverses little more than half of the apparent first segment. It therefore appears that this carination is a somewhat variable character in this species.

TMESIPHORUS FORMICICOLA, n. sp.

♂ Reddish castaneous, elytra and palpi paler; moderately clothed with a pale, very short, decumbent pubescence, and with a prominent fascicle of golden hairs on either side of head at base.

Head about as broad as long, front impressed longitudinally between antennal ridges, with two not very prominent interocular foveae, and with a conical fascicle-clad tubercle behind each eye; with dense rounded punctures becoming somewhat rugose towards front; antennae long, reaching about middle of elytra; joint 1 cylindric, longer than 2 and 3 combined, 2 slightly broader than 3, 2-7 subequal in length, 8 shorter, 9 longer than 8, 10 shortest of all, 3-10 of equal width, 11 which alone forms the club longer than the five preceding, pyriform; palpi with the spine on second segment lightly, and on the third strongly, curved. Prothorax about equal in length and breadth, widest slightly in advance of middle, thence strongly arcuate to base which is wider than apex; with a small medio-basal fovea, and a large fovea on each side low down; puncturation as on head. Elytra strongly transverse, smooth, dorsal striae well defined, reaching about middle of elytra, each widely sulcate at base. Abdomen elongate, at broadest wider than elytra; with a well defined longitudinal carina on either side traversing the first and half of the second segments. Undersurface with metasternum deeply and widely sulcate on its apical half and second and third segments of abdo-

men lightly impressed.

Length, 2.75 mm.

♀ Unknown.

Habitat.—Western Australia; Mundaring (J. Clark). In nest of small black ant.

Differs from all other described Australian species of *Tmesiphorus* by its remarkable antennal club, consisting of one segment only.

Type in Author's collection.

ENDOMYCHIDAE.

DAULOTYPUS GIBBOSIPENNIS, n. sp.

Reddish flavous, tarsi paler, basal half of prothorax, scutellum palpi, legs, more or less, and antennae except two basal segments and apical two thirds of ultimate segment, black or deeply infuscated; moderately clothed with fairly long, erect setae, these interspersed with a shorter pubescence on sides of both head and prothorax.

Head lightly impressed between antennae, with only faint indications of puncturation. Clypeus without impressions. Antennae moderately stout, first joint a little more robust than second, third twice as long as fourth, and about one and one-half times longer than the second, 4, 6, 8 subequal, 5 and 7 longer, subequal, 9 about as long as 7 but wider, dilated from base to apex, 10 longer and wider than 9, 11 lightly longer than 10, bluntly pointed. Prothorax nearly twice as wide as long, widest near apex, sides finely margined; bluntly toothed at widest part and again at about apical third; hind angles acute; with a narrow transverse, sharply defined furrow close to base, this meeting on either side near lateral borders a longitudinal furrow, these latter a little wider and deeper than the transverse furrow and not quite attaining middle of prothorax; anterior half of prothorax strongly convex, posterior half strongly depressed; puncturation wanting. Elytra much wider than prothorax, widest a little in advance of middle, with four prominent elevations at base, two humeral and two nearer suture, with somewhat irregular rows of fairly large punctures, becoming less conspicuous posteriorly. Abdomen with first ventral segment about equal in length to the sum of the following three. Legs with femora thin, the posterior ones passing fourth segment of abdomen. Posterior tibiae curved.

Length, 2.75 to 3 mm.

Habitat.—Queensland; Goodna, in a rotten log (F. E. Wilson).

Two species have previously been assigned to this genus, viz., *picticornis* Lea (12), and *minor* Lea (13). From *picticornis* my species may be readily differentiated by its much smaller size, its non infusate head, the different shape of the sides of its prothorax, by its hind femora passing the fourth abdominal segment, and in its possession of elytral elevations. From *minor* it may be

separated by its head being not infuscated, its prothorax not more than twice as wide as long, its clypeus without impressions, and also by its possession of elytral elevations.

The shape of the two apical segments of the antenna vary according to the position of observation. From some directions the subapical segment is seen to be obtusely produced, and passes somewhat the base of the apical segment.

Type in Author's collection.

OEDEMERIDAE.

TECHMESSA EPHIPIATUM, n. sp.

Reddish testaceous, nitid; head less muzzle and antennal joints 5-11, deeply infuscated; a black area occupying a little less than half the length of elytra, beginning at about one-sixth, this area gradually narrows towards, but does not quite attain the lateral margins.

Head strongly transverse, greatly decreasing in width towards base and apex; eyes placed laterally, protruding; with sharply defined round punctures, fairly evenly distributed, but becoming smaller in front. Antennae reaching about middle of elytra, joint 2 short, 3 about one and one half times longer than 2, 4-10 subequal, a little longer than 3, 11 longer than 10, pointed. Prothorax lightly narrower than head, evenly rounded to beyond middle, thence arcuate to base; with a large shallow depression on either side of disc a little behind middle; puncturation as on head, but if anything a little more sparse on median line, which is only very faintly indicated at apex. Scutellum more densely punctured than prothorax. Elytra nearly twice as wide as prothorax, shoulders evenly rounded, sides parallel to about two-fifths, thence gradually increasing in width to about three-fifths, from whence they are gently rounded to apex; shallowly depressed along suture near base; with punctures about the same size as those on prothorax. Prosternum less, mesosternum more, densely punctured. Metasternum with a discal area behind middle, and most of its posterior declivity impunctate. Abdominal puncturation less sharply defined.

Length, 4 mm.

Habitat.—Queensland; Blackall Ranges (F. E. Wilson).

This species differs from the description of *bifoveicollis* Lea (14), in its general coloration, unicolorous clothing, in the median line of prothorax being almost totally wanting, and in its elytra not being parallel sided.

Type in Author's collection.

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